life, is valueless. For individuals of *Pentacrinus decorus* have been found attached to telegraph cables by a spreading base; and one specimen of *Pentacrinus asterius* at any rate, which I have seen, had the stem broken at a nodal joint, which was worn and rounded below, its central canal being closed up by a small median tubercle; while this condition is common to several other Pentacrinidæ, as I have pointed out already (*ante*, pp. 18–22).

Apart from the length of the internodes and the characters of the stem-joints, cirri, and arms, all of which are merely of specific value, the chief difference between *Pentacrinus asterias* and *Pentacrinus decorus* is in the mode of union of the two outer radials. In the latter type, as shown in Pl. XXXIV. figs. 3 and 5 (which were drawn under Sir Wyville's own direction), these joints are united by a bifascial articulation. But in *Pentacrinus asterius* (Pl. XII. figs. 18 and 21), and also in *Pentacrinus mülleri* and *Pentacrinus wyville-thomsoni* (Pl. XVIII. figs. 8, 11), there is a syzygy in this position. This difference, however, is one which occurs continually among the numerous species of the Comatulid genera. *Antedon rosacea* and *Actinometra meridionalis* are types of many species having the bifascial articulation; while *Antedon fluctuans*[1] and *Actinometra solaris* represent a smaller number of species which have the syzygy. I see no reason, therefore, for considering this difference as one of subgeneric value among the Pentacrinidæ, so as to separate *Pentacrinus decorus*, together with *Pentacrinus blakei* and *Pentacrinus naresianus* under a separate name, *Neocrinus*, from the other five species which have a syzygy between the two outer radials. Four of these, and probably *Pentacrinus asterius* as well, become free at a certain period of their life, just as Sir Wyville discovered to be the case in *Pentacrinus decorus;* so that one of the physiological characters on which he relied as giving *Neocrinus* an intermediate position between *Pentacrinus asterius* and the Comatulæ is of much more general occurrence than he supposed.

The separation of *Pentacrinus asterius* and *Pentacrinus decorus* as types of subgenera appears to have been abandoned by Sir Wyville within a year after he had proposed the name *Cenocrinus* for the former species. For in his well known memoir On the Embryogeny of *Antedon rosaceus*, published in the Philosophical Transactions for 1865, frequent reference is made to *Pentacrinus* (*Neocrinus*) *asterias* as well as to *Pentacrinus* (*Neocrinus*) *decorus;* while Oersted's species *Pentacrinus mülleri* was also referred to the subgenus *Neocrinus*. Sir Wyville seems, therefore, still to have regarded *Pentacrinus briareus* as having the first claim to the generic name *Pentacrinus*, although the Messrs. Austin had expressed an opposite opinion. He appears, however, to have eventually adopted their view, as all later writers have done. For in The Depths of the Sea reference is made to two West Indian species only, viz., *Pentacrinus asterius* and *Pentacrinus mülleri;*[2] and neither *Neocrinus* nor *Cenocrinus* is mentioned, while *Pentacrinus decorus* is confused with *Pentacrinus mülleri*. Subsequently also, when describing new

[1] The specific formula of this type is—A.R. 3 . 2 . 2 . $\frac{b}{b}$.

[2] The Depths of the Sea, pp. 436, 442, 1873.